

Listing of Claims

This listing of claims replaces all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method comprising:

placing a pellicle within an outer pellicle frame and an inner pellicle frame;

heating the pellicle, the outer pellicle frame, and the inner pellicle frame above a glass transition temperature of the pellicle and below a melting temperature of the pellicle to attach the pellicle to at least one of the outer pellicle frame and the inner pellicle frame;

placing a polymer layer between a reticle and a selected one of the outer pellicle frame and the inner pellicle frame; and

heating the polymer layer to a pre-determined temperature to attach the reticle to the selected pellicle frame[[;]] ,

wherein the inner pellicle frame has a ~~lower~~ coefficient of thermal expansion that is greater than or equal to a coefficient of thermal expansion of the outer pellicle frame and the polymer layer.

2. (Original) The method of Claim 1, wherein the polymer layer has a melting point between about 60 to 150 degrees Celsius.

3. (Original) The method of Claim 1, wherein said heating heats the polymer layer between about 45 to 150 degrees Celsius.

4. (Previously Presented) The method of Claim 1, further comprising applying pressure to the reticle and the selected pellicle frame during said heating.

5. (Original) The method of Claim 1, wherein the polymer layer comprises a thermoplastic.

6. (Original) The method of Claim 1, further comprising forming a hermetic seal between the reticle and the pellicle frame.

7. (Previously Presented) The method of Claim 1, further comprising cutting the polymer layer to match a bottom surface area of the selected pellicle frame.

8. (Previously Presented) The method of Claim 1, wherein said heating is local to the polymer layer bonding the selected pellicle frame to the reticle.

9-17. (Canceled).

18. (Previously Presented) The method of Claim 1, wherein the pellicle is mechanically clamped within the outer pellicle frame and the inner pellicle frame.

19. (Canceled)

20. (Currently Amended) The method of Claim 1, wherein the inner pellicle frame has a ~~lower~~ coefficient of thermal expansion that is greater than the polymer layer and the same ~~coefficient of thermal expansion~~ as the outer pellicle frame.

21. (New) A method comprising:

mechanically clamping a flexible pellicle membrane to a pellicle frame to hold the flexible pellicle membrane stretched across the pellicle frame without using an adhesive; and coupling the pellicle frame to a reticle to cover a pattern on the reticle with the pellicle membrane without using an adhesive, wherein coupling the pellicle frame to the reticle comprises

positioning a low outgas thermoplastic polymer between the pellicle frame and the reticle, and

heating the thermoplastic polymer to couple the polymer to the pellicle frame and to the reticle.

22. (New) The method of claim 21, wherein the low outgas thermoplastic polymer comprises a polyester thermoplastic.

23. (New) The method of claim 21, wherein coupling the pellicle frame to the reticle comprises bonding the pellicle frame to the reticle.

24. (New) A system comprising:

a reticle having a lithography pattern formed thereon;
a pellicle frame;
a pellicle membrane spanned across the pellicle frame; and
a low outgas polyester attaching the pellicle frame to the reticle without using an adhesive and with the pellicle membrane covering the pattern on the reticle.

25. (New) The system of claim 24, wherein the pellicle frame comprises a mechanical clamp to hold a flexible pellicle membrane stretched across the pellicle frame without using an adhesive.

26. (New) The system of claim 24, wherein:

the pellicle frame comprises an inner frame and an outer frame; and

the flexible pellicle membrane is clamped between the inner frame and the outer frame to hold the flexible pellicle membrane stretched across the pellicle frame.

27. (New) A system comprising:

a reticle having a pattern formed thereon;

a flexible pellicle membrane;

a pellicle frame comprising an inner frame member and an outer frame member to mechanically clamp the flexible pellicle membrane therebetween and stretch the flexible pellicle membrane spanned across the pellicle frame; and

a thermoplastic polymer to couple the inner frame member of the pellicle frame to the reticle with the flexible pellicle membrane covering the pattern on the reticle,

wherein the outer frame member remains otherwise unattached to the reticle.

28. (New) The system of claim 27, wherein:

the inner frame member comprises an inner frame;

the outer frame member comprises an outer frame; and

the inner frame and the outer frame are sized and shaped to clamp together by a snap action.